ABSTRACT OF DISCLOSURE

Disclosed are novel reflective microflakes for use in making "additive-primary" coloring media having improved reflection characteristics over the red, green and blue super-bright color characteristics, and "super-white" coloring media having Magnesium-Oxide like color characteristics. The coloring media of the present invention provides a palette of colors for imparting color characteristics or forming color images upon surfaces of arbitrary surface geometry. In the preferred embodiments of the invention, the microflakes are made from cholesteric liquid crystal (CLC) material, wherein the pitch of the helices of the liquid crystal molecules in each CLC microflake varies along the thickness dimension (i.e. transverse to the surface) thereof. Depending on the final spiral structure of the materials utilized, the CLC circularly polarizing materials reflect either left-handed or right-handed circularly polarized light. In a preferred embodiment, each CLC microflake of additive-primary coloring media has a laminated construction in order that both the upper and lower surfaces thereof have substantially the same reflection characteristics over its tuned reflection band. Also, each CLC microflake of super-white coloring media has a laminated construction in order that both the upper and lower surfaces thereof have substantially the same reflection characteristics over its broadband reflection band. The super-white and additive-primary coloring media of the present invention can be used to produce virtually any color. By virtue of the circularly polarizing reflection characteristics of the CLC microflakes, the resulting

coloring media can be used to form polarization-encoded spatially multiplexed images (SMI) on radiation absorbing surfaces, to produce stereoscopic 3-D images when viewed through electrically-passive polarization glasses. The coloring media may also be used in 2-D and 3-D xerographic printing processes.